The Pupil Remapping Coronagraph: A High Performance Coronagraph for a Smaller, Simpler TPF

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The pupil remapping technique can transform a telescope pupil into an "ideal" apodized pupil without losing light. This achromatic transformation is achieved by reflection of the telescope beam on two aspheric mirrors. Since no light of the telescope pupil is removed, the Pupil Remapping Coronagraph preserves the sensitivity and the angular resolution of the telescope, and can detect Earth-size planets at 1.5 λ/d of the central star.